TOSHIBA 6676

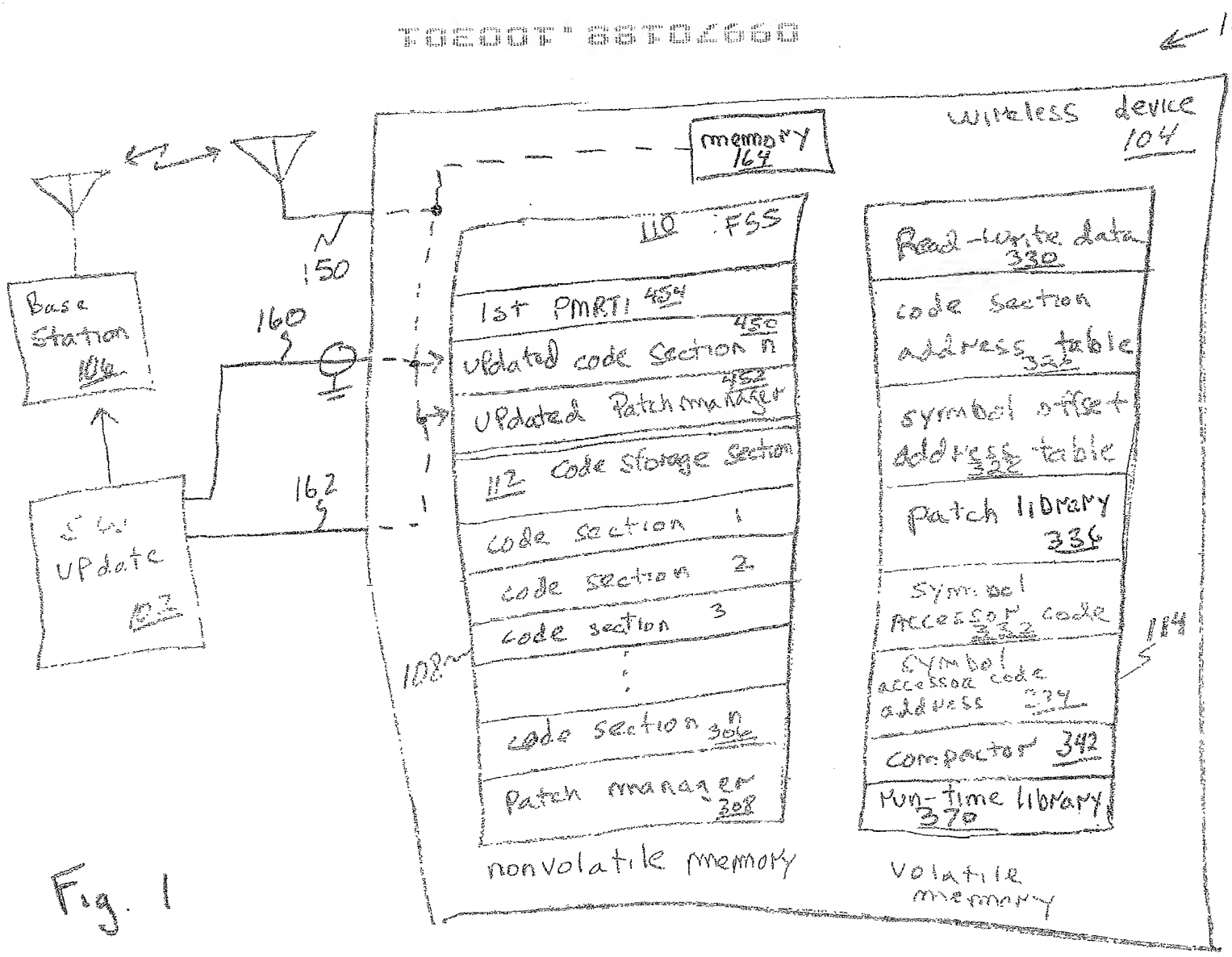

Fig. 1

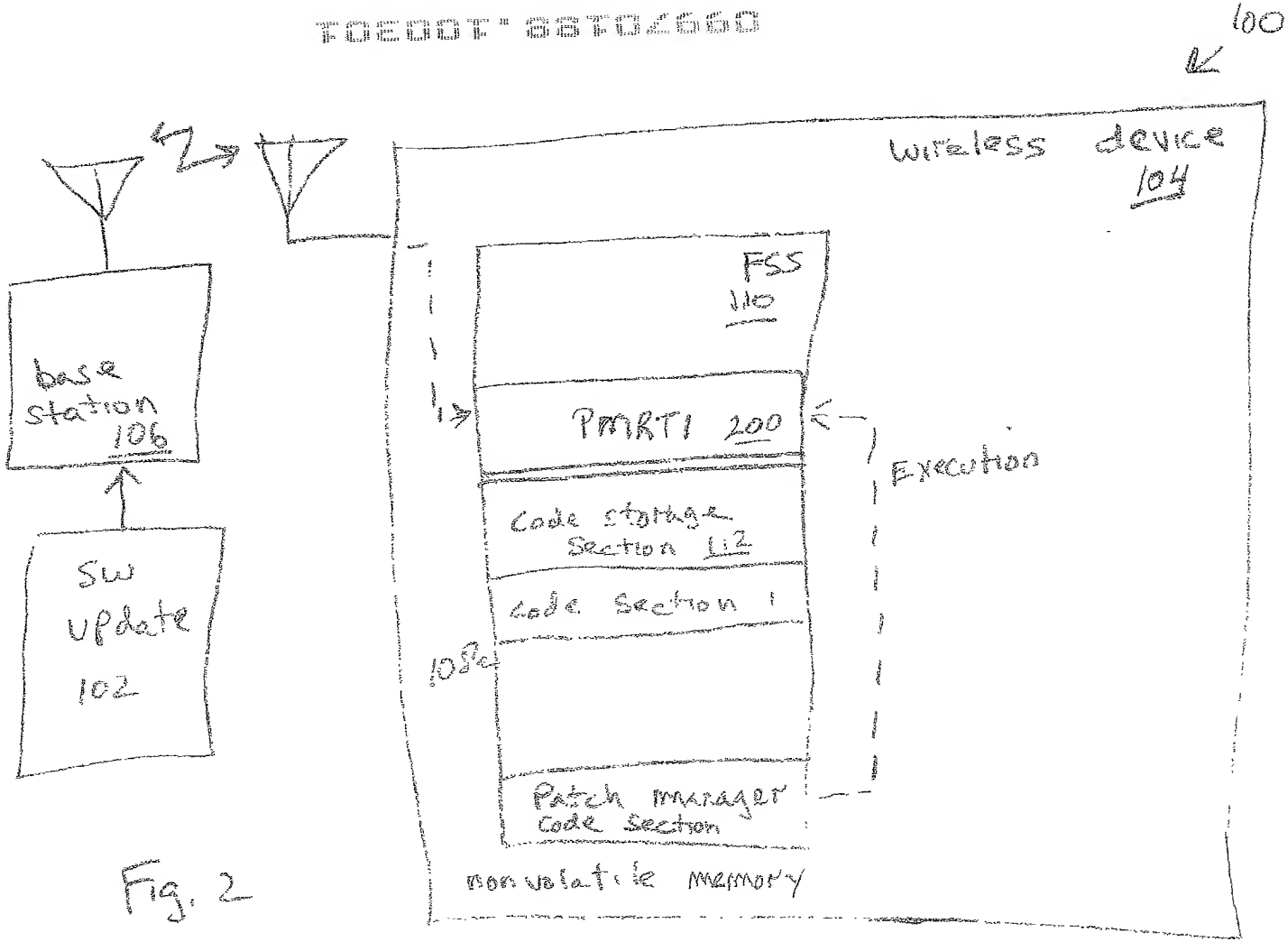
100
wireless device 104
base station 106
SW update 102
FSS 110
PMRTI 200
Execution
Code storage Section 112
Code Section 1
105a
Patch manager code Section
non volatile memory

Fig. 2

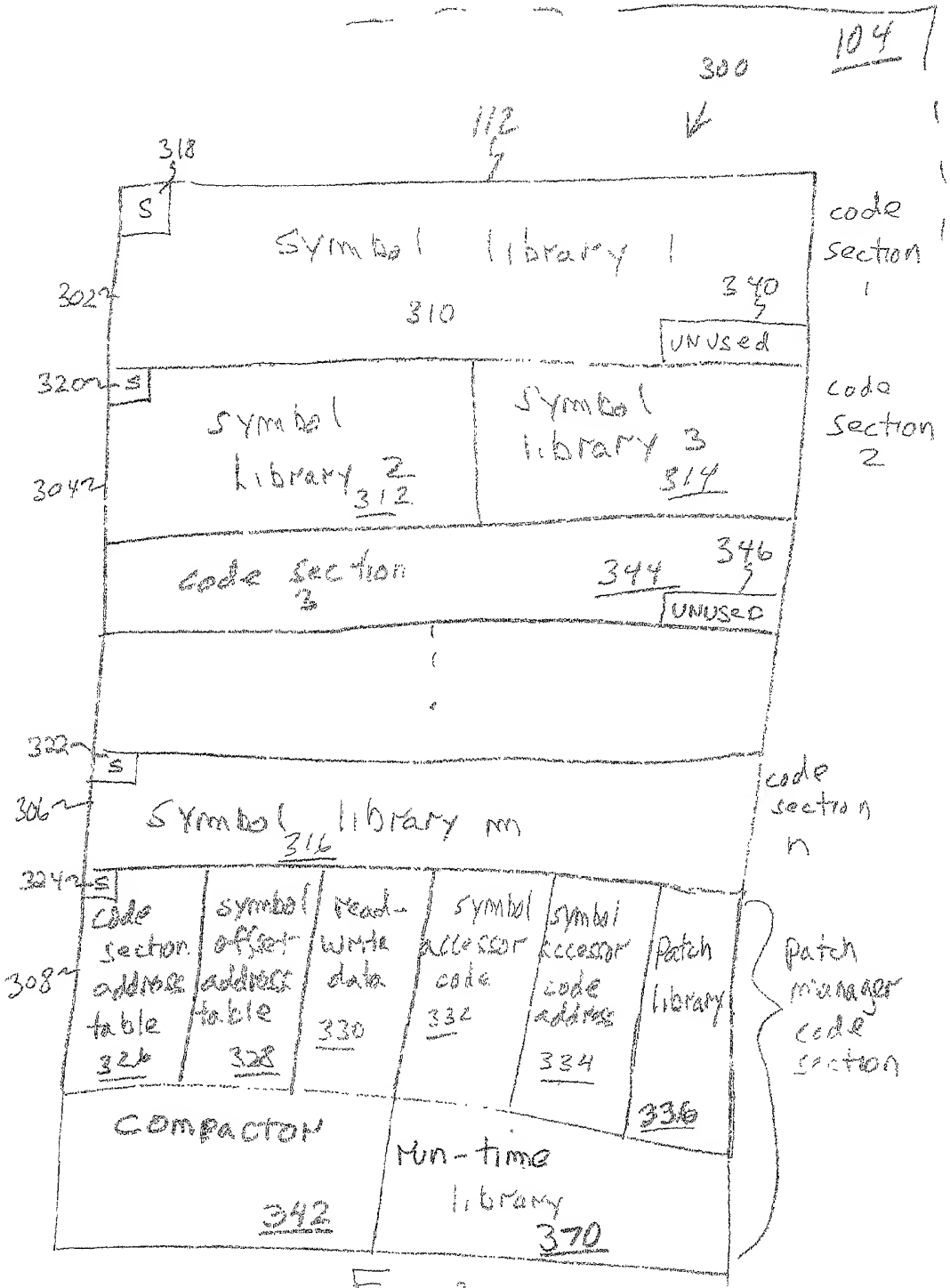

Fig. 3

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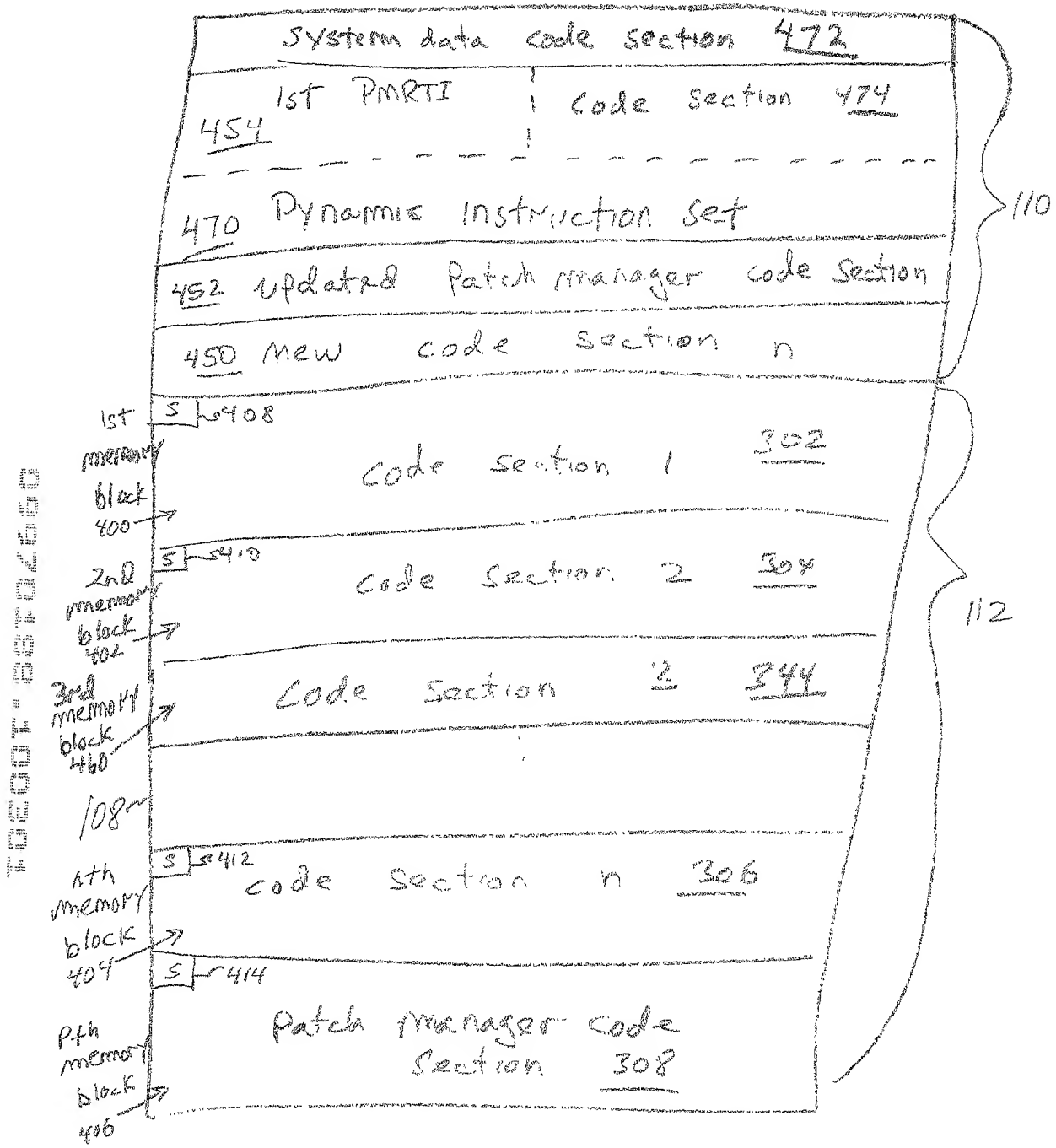

System data code section 472
1st PMRTI 454
Code Section 474
Dynamic instruction set 470
Updated Patch manager code Section 452
New code section n 450
110
1st memory block 400
2nd memory block 402
3rd memory block 460
Mth memory block 404
Pth memory block 406
S 408
S 410
S 412
S 414
Code Section 1 302
Code Section 2 304
Code Section 2 344
Code Section n 306
Patch manager code Section 308
112
108

Fig. 4

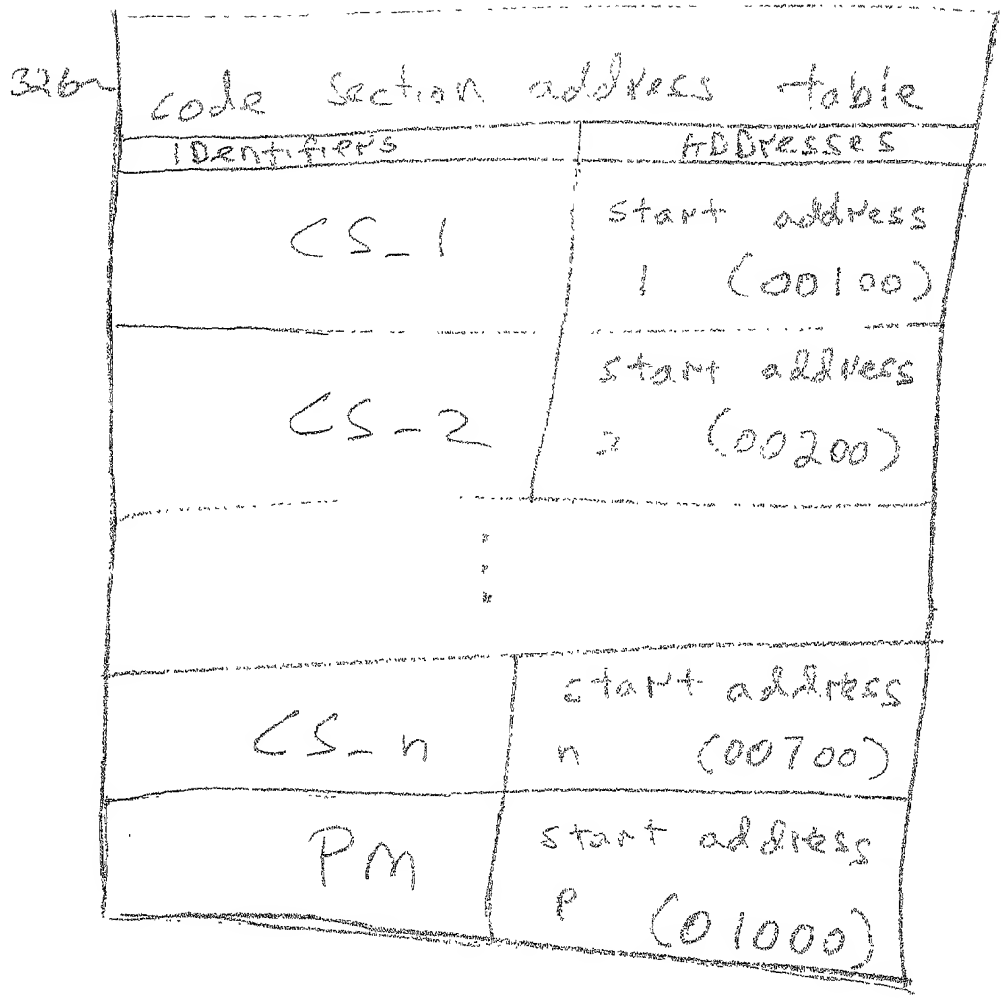
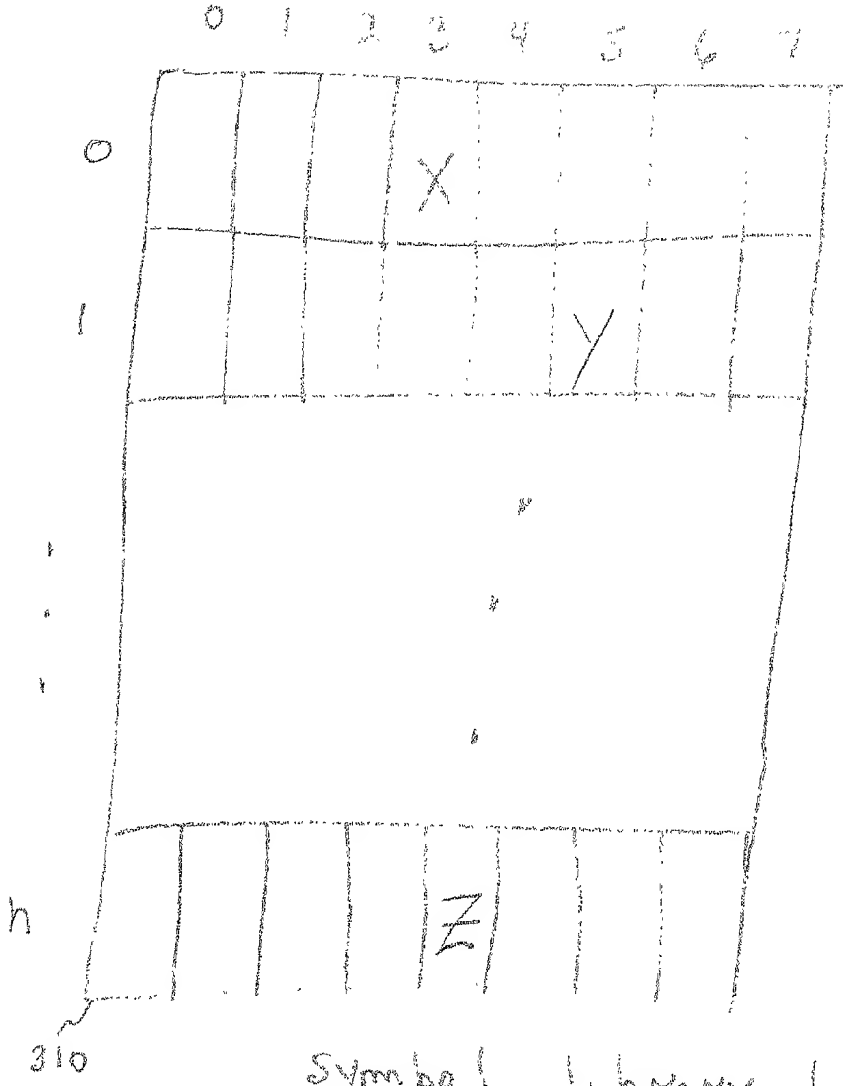


Fig. 5

US 6,598,154 B1



Symbol Library

Fig. 6

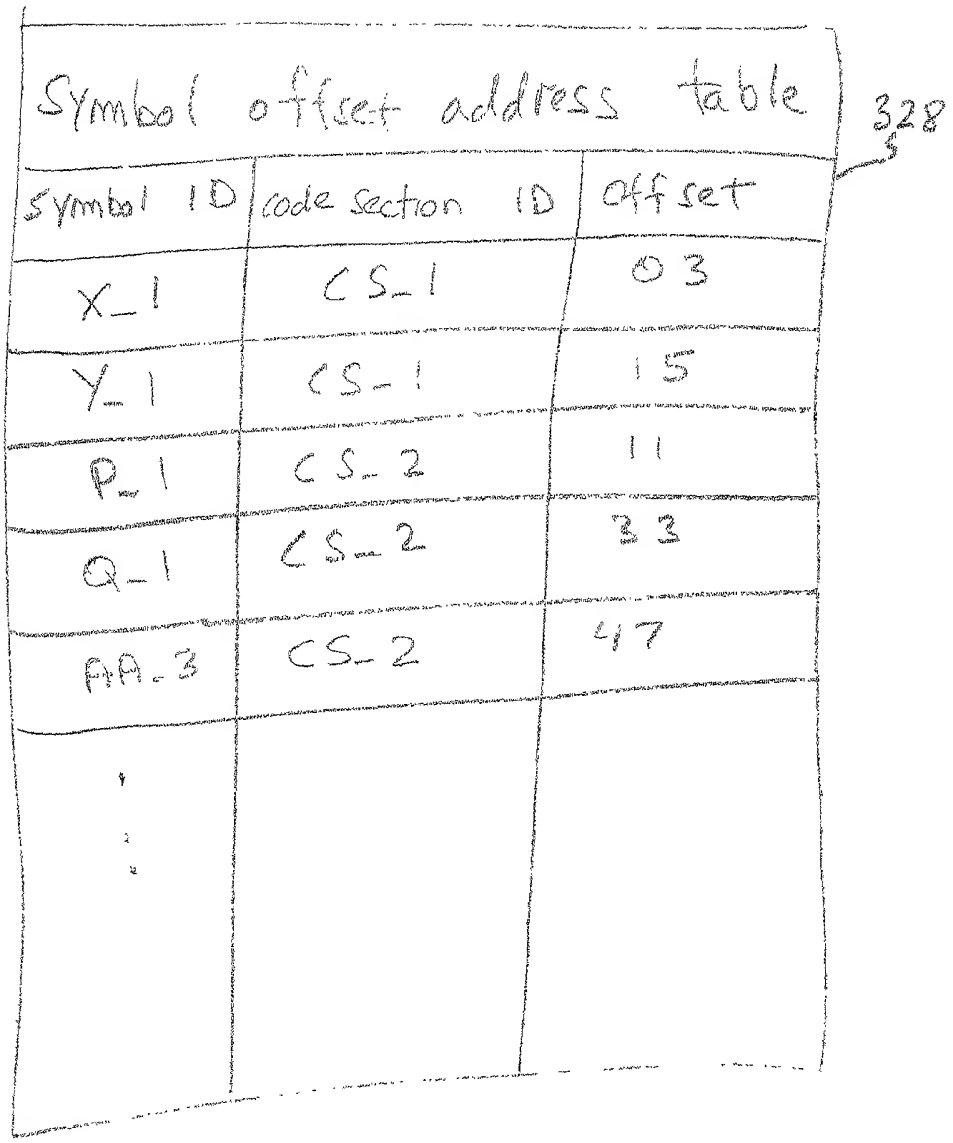

Symbol offset address table
328
Symbol ID
code section ID
offset
X_1
CS_1
03
Y_1
CS_1
15
P_1
CS_2
11
Q_1
CS_2
33
AA_3
CS_2
47

Fig. 7

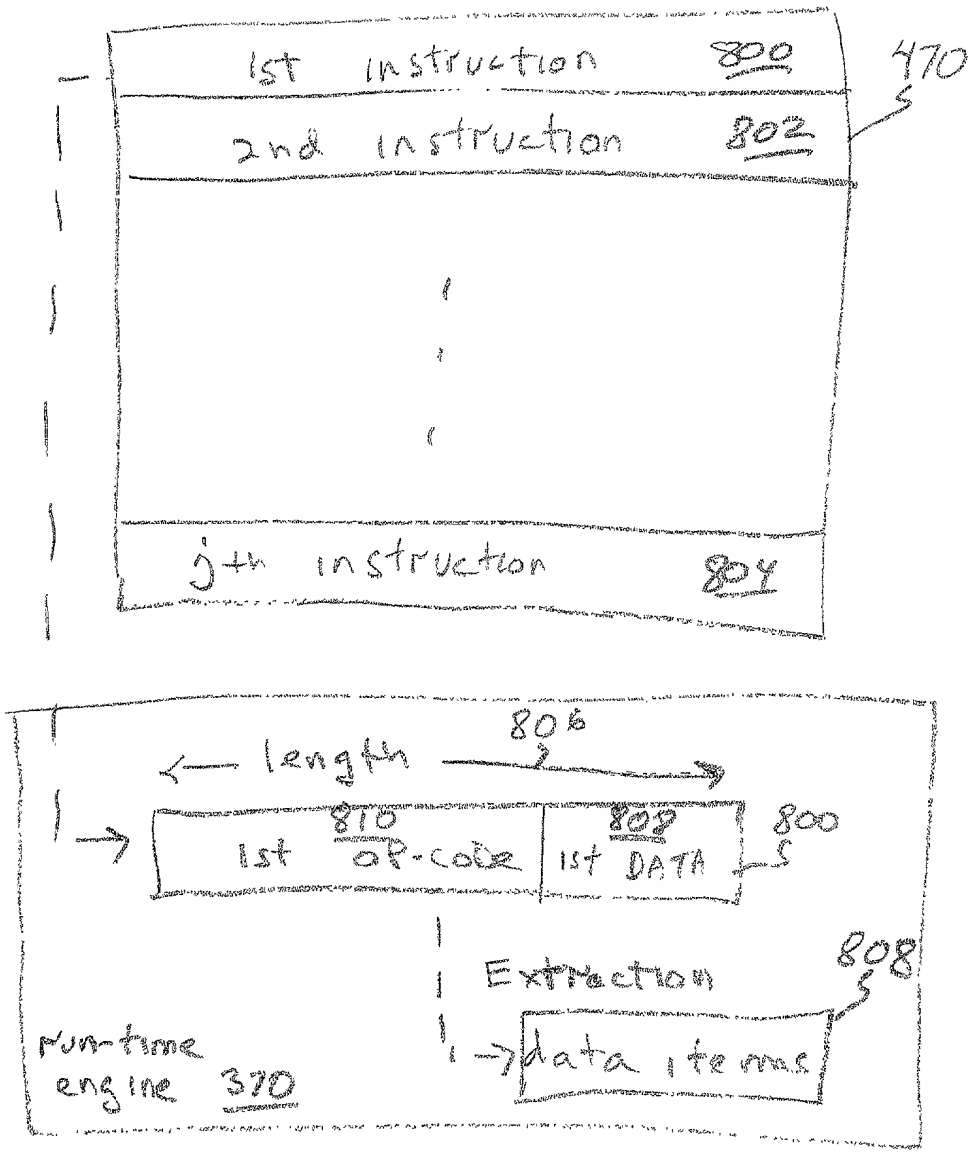

1st instruction
800
470
2nd instruction
802
j+th instruction
804
length
806
810
808
800
1st op-code
1st DATA
Extraction
808
run-time engine 370
data items

Fig. 8a

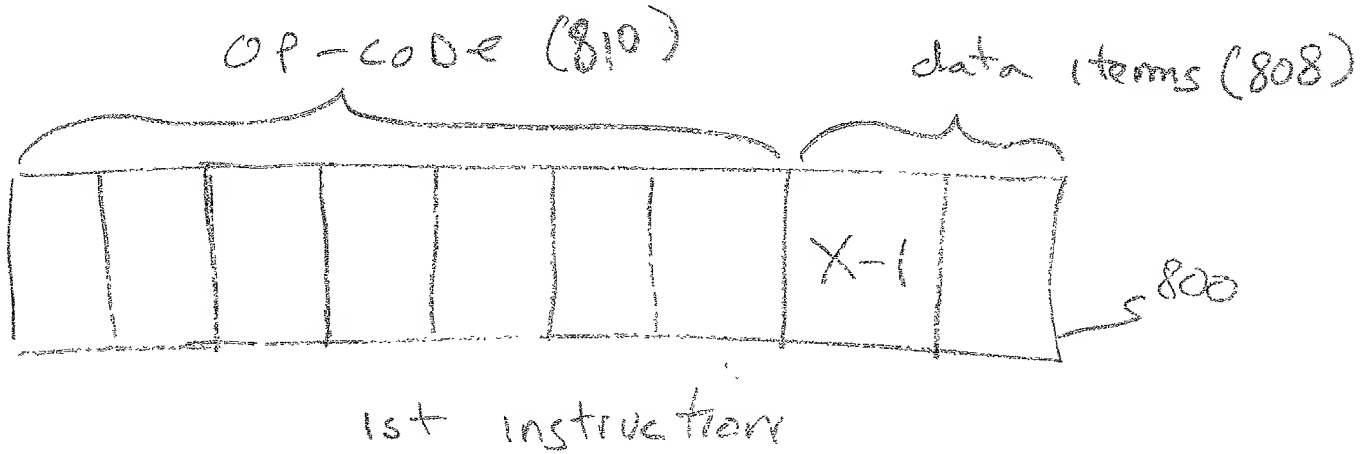


Fig. 8b

FOREIGN PATENT 6873626

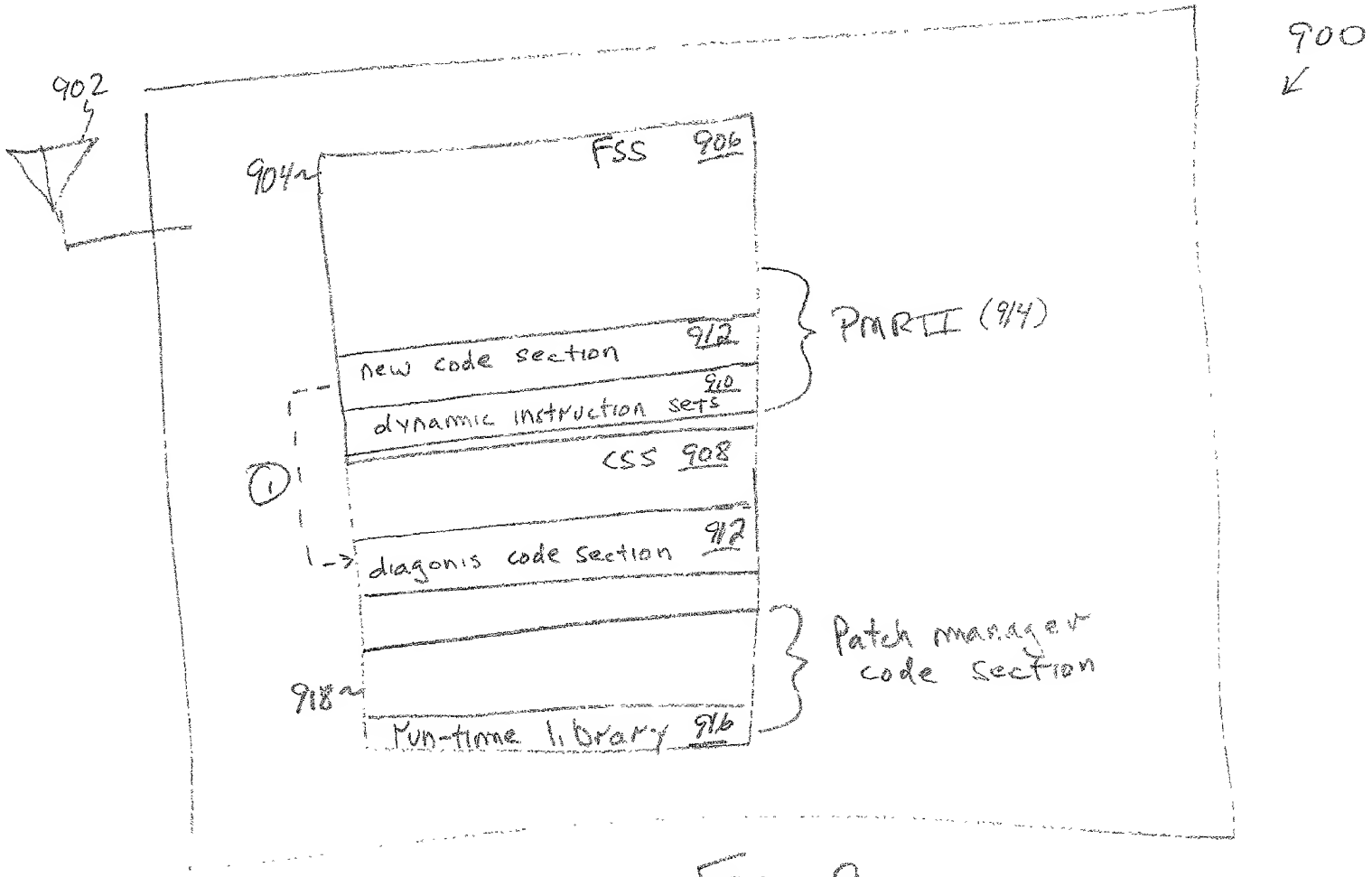


Fig. 9

TOSHIBA 2870560

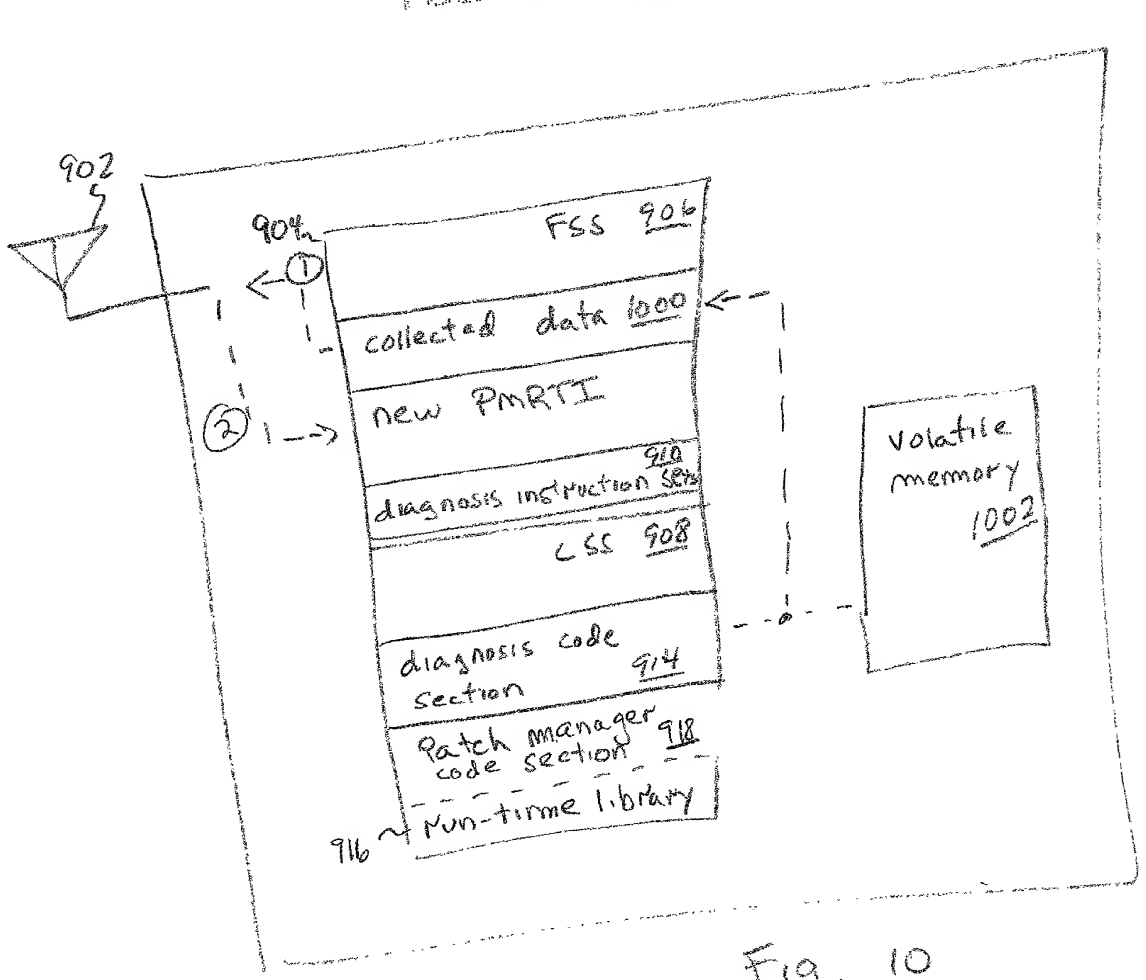
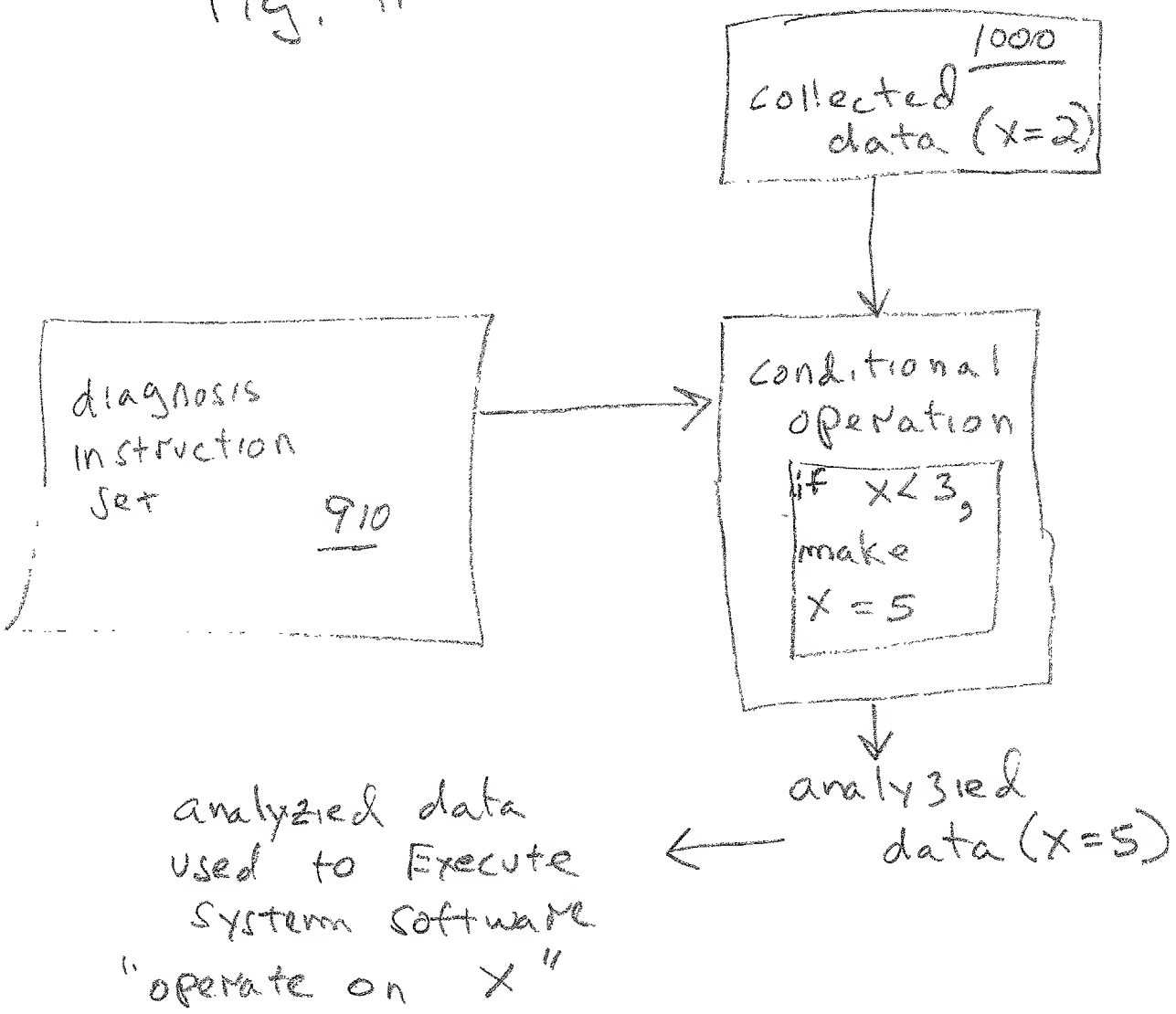


Fig. 10

Docket 30102669

Fig. 11



Docket: 8570260

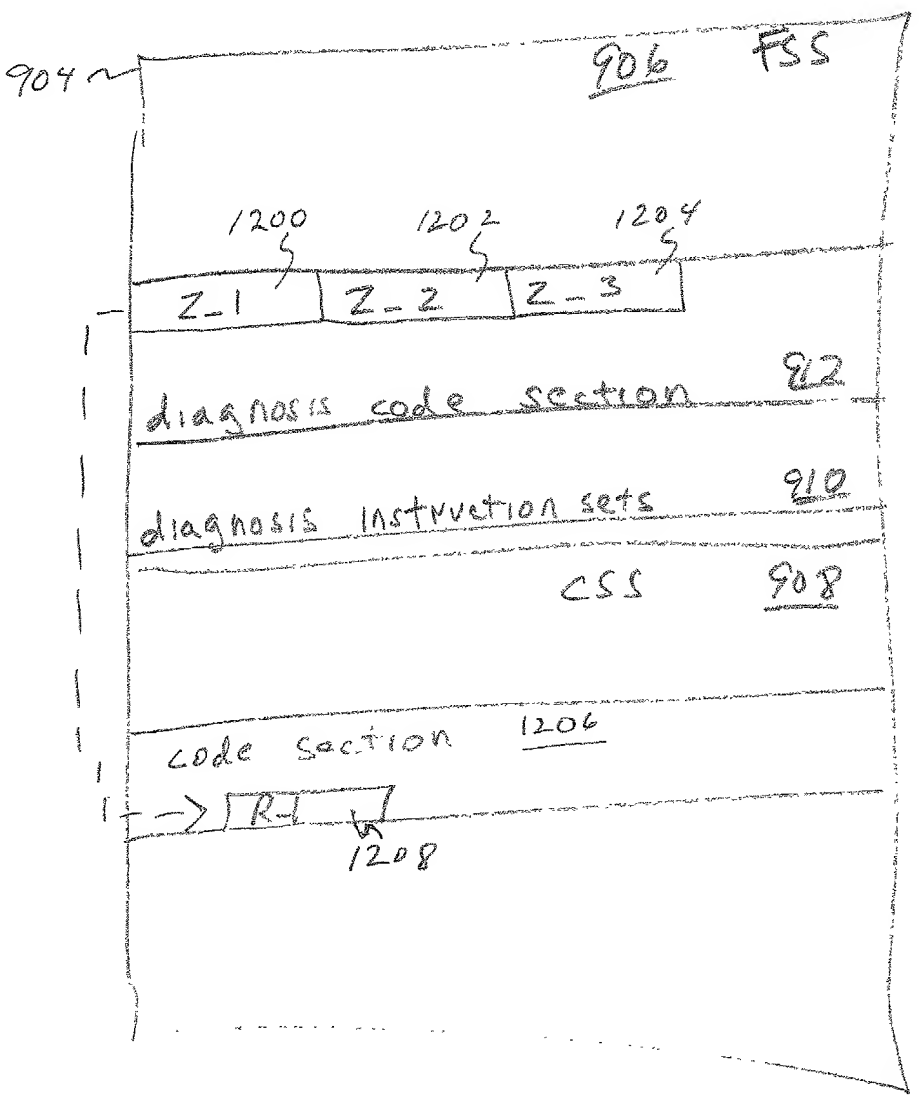


Fig. 12

TOCBOT-BBTTCGTB

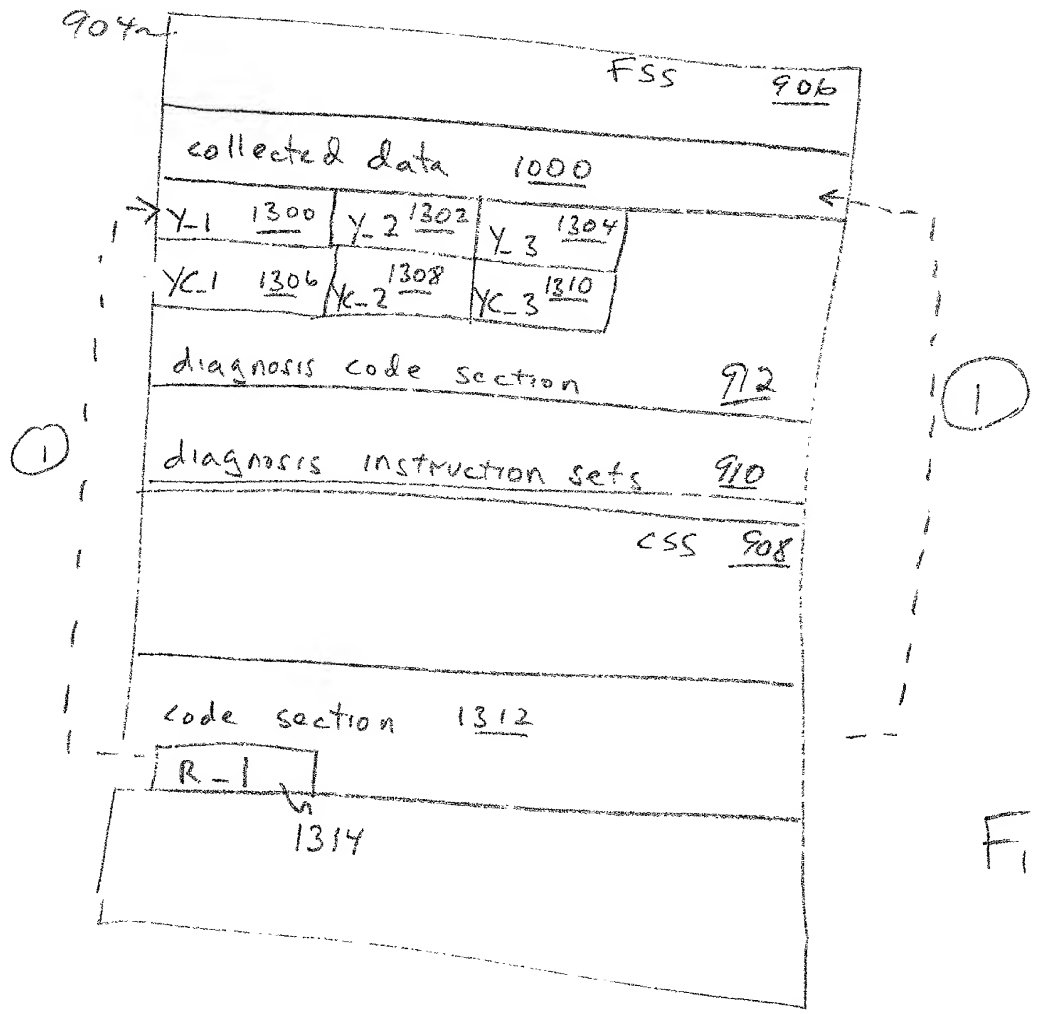


Fig. 13

Replacement Sheet

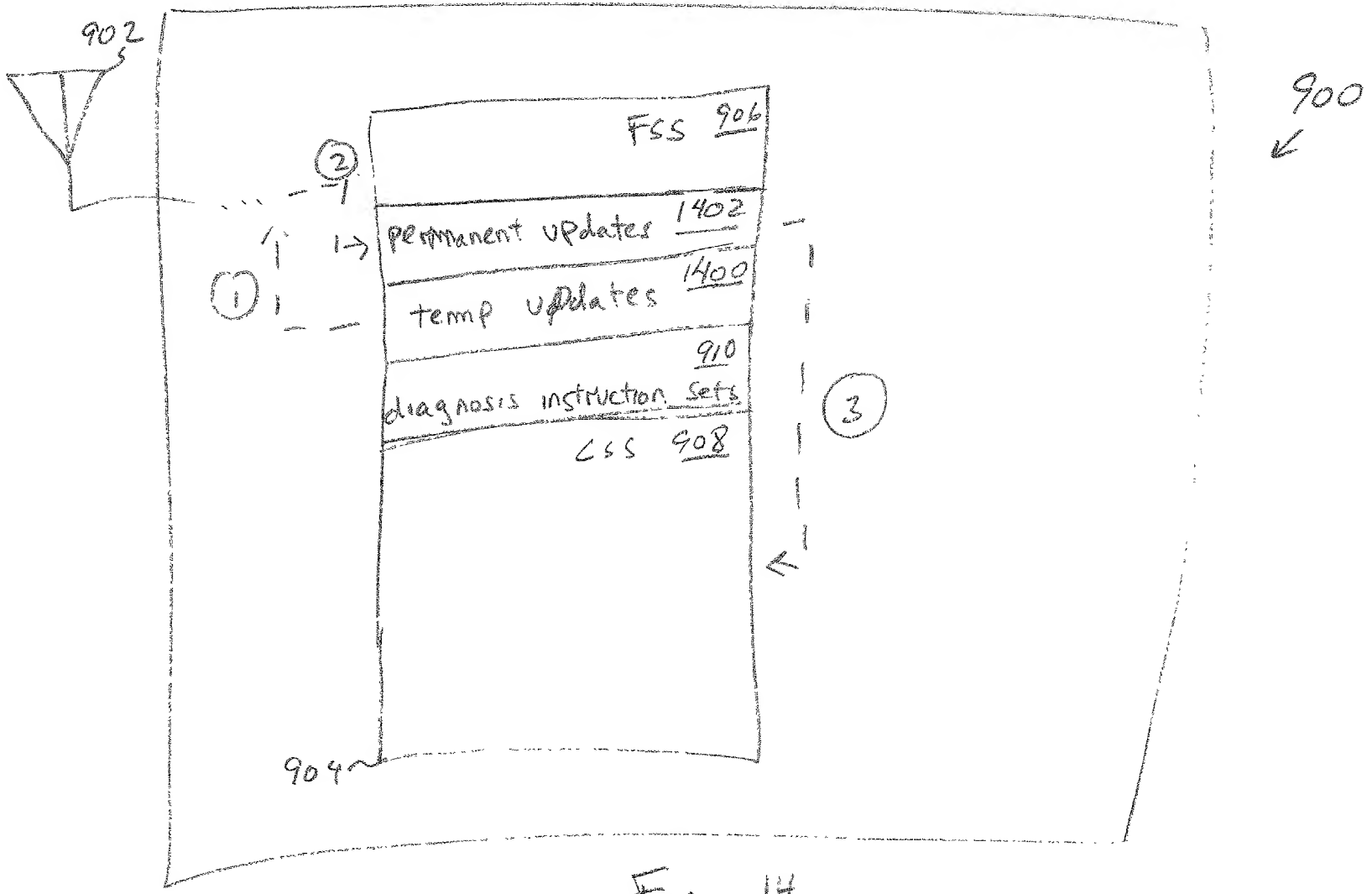
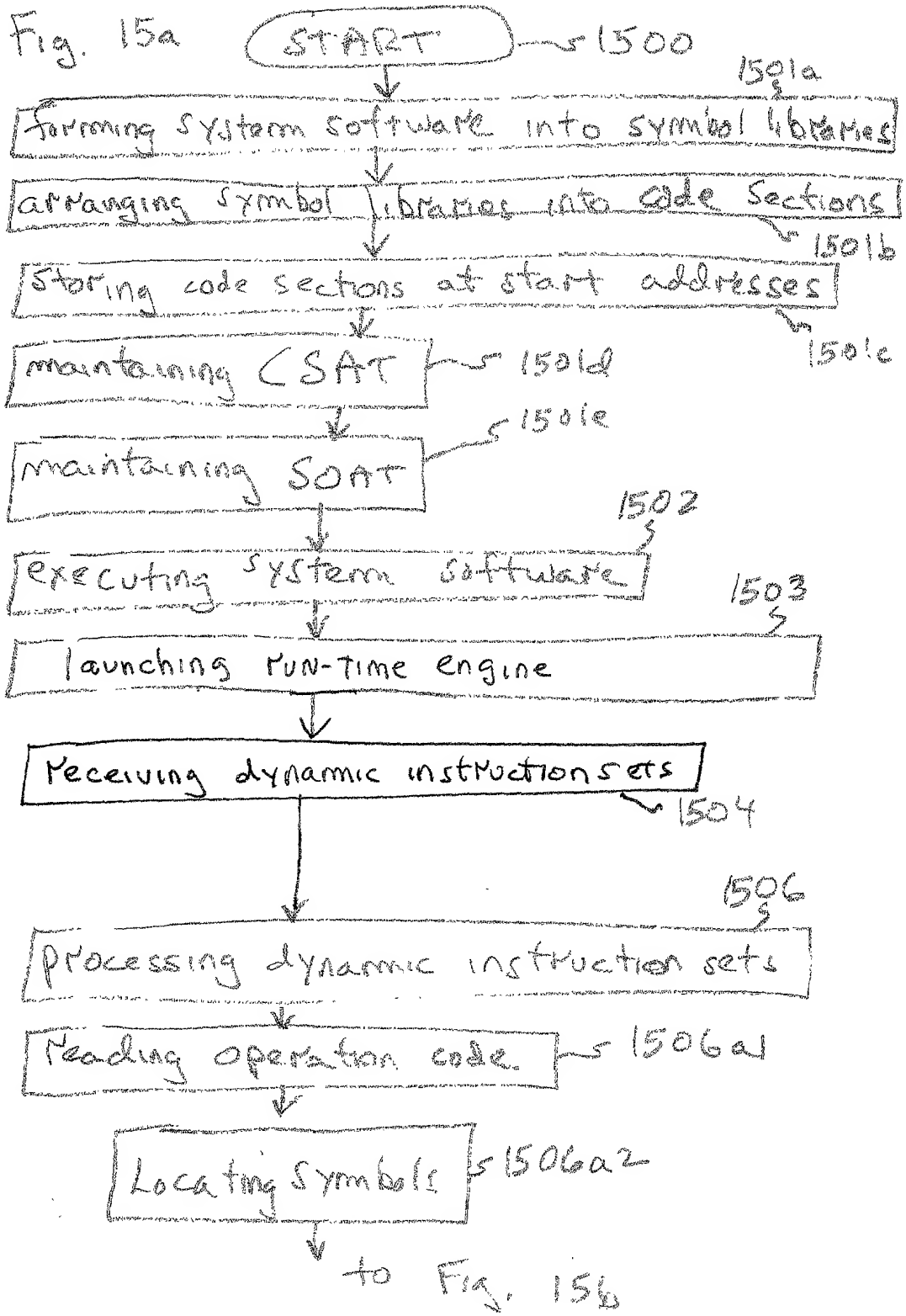


Fig. 14

Fig. 15a


START
1500
forming system software into symbol libraries
1501a
arranging symbol libraries into code sections
1501b
storing code sections at start addresses
1501c
maintaining CSAT
1501d
maintaining SOAT
1501e
executing system software
1502
launching run-time engine
1503
receiving dynamic instruction sets
1504
processing dynamic instruction sets
1506
reading operation code
1506a1
locating symbols
1506a2
to Fig. 15b

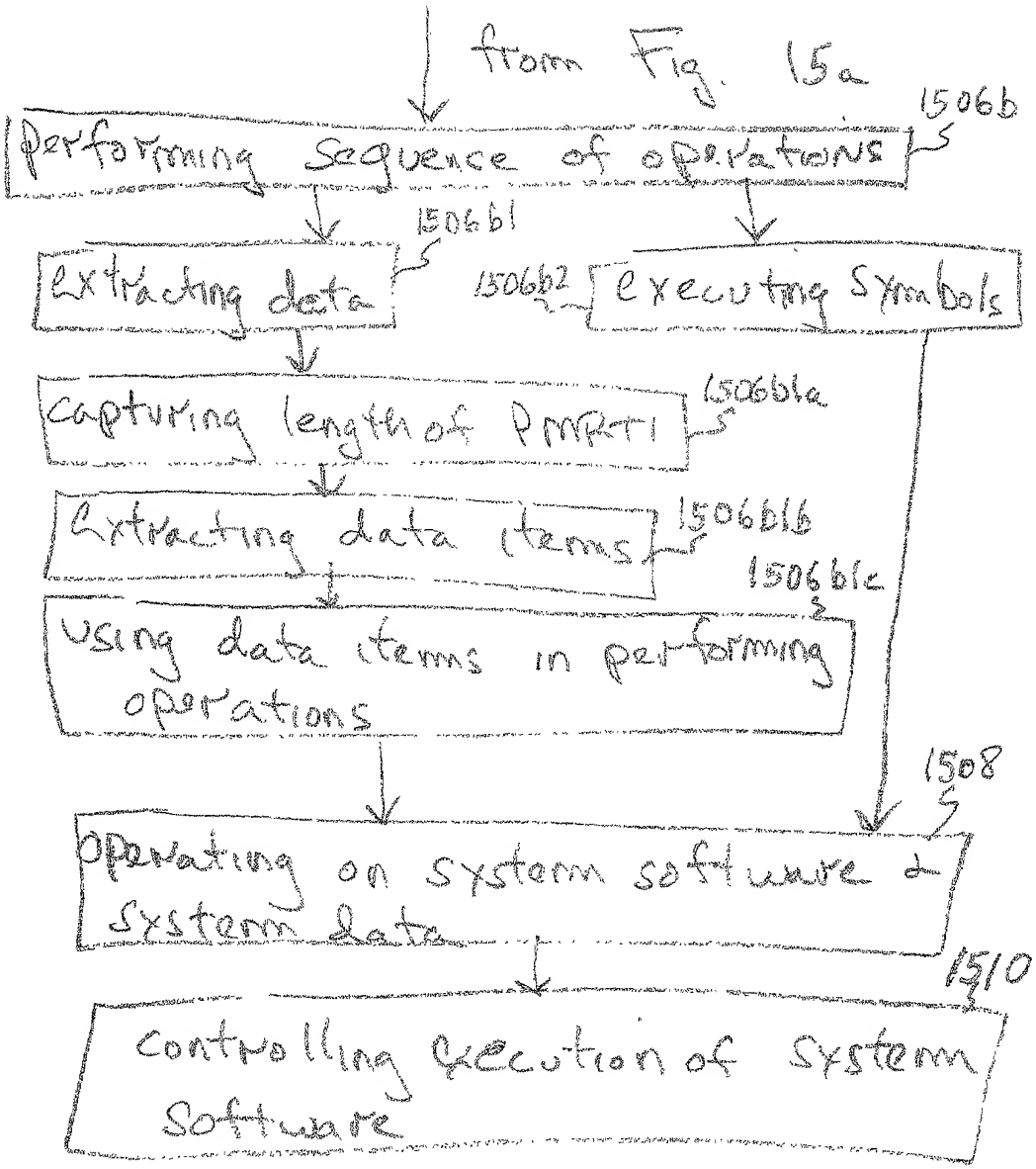

from Fig. 15a
performing sequence of operations
1506b
extracting data
1506b1
executing symbols
1506b2
capturing length of prompt
1506b1a
extracting data items
1506b1b
using data items in performing operations
1506b1c
operating on system software & system data
1508
controlling execution of system software
1510

Fig. 15b

Fig. 16

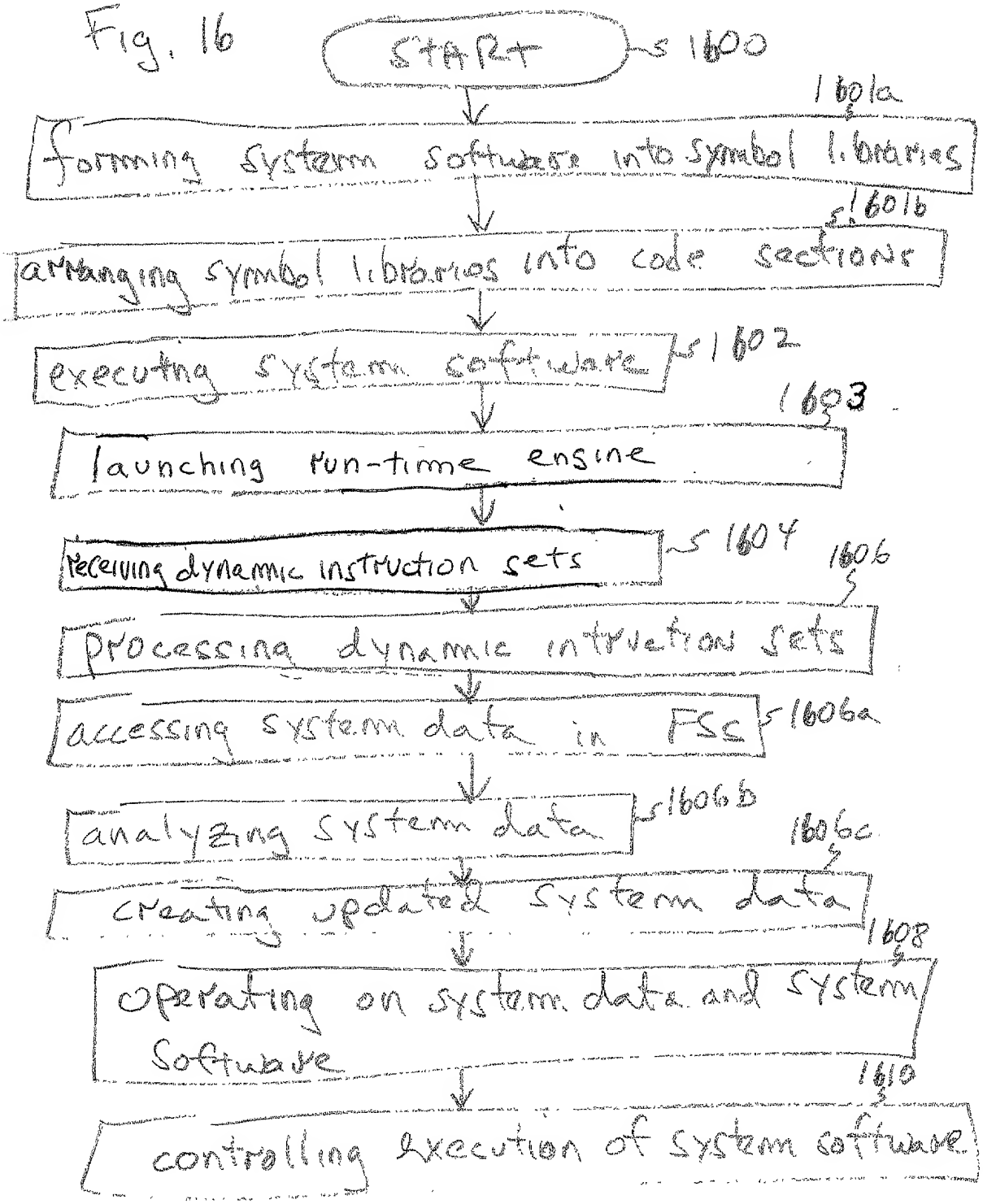

START
1600
1601a
forming system software into symbol libraries
1601b
arranging symbol libraries into code sections
1602
executing system software
1603
launching run-time engine
1604
receiving dynamic instruction sets
1606
processing dynamic instruction sets
1606a
accessing system data in FSC
1606b
analyzing system data
1606c
creating updated system data
1608
operating on system data and system software
1610
controlling execution of system software

Fig. 17

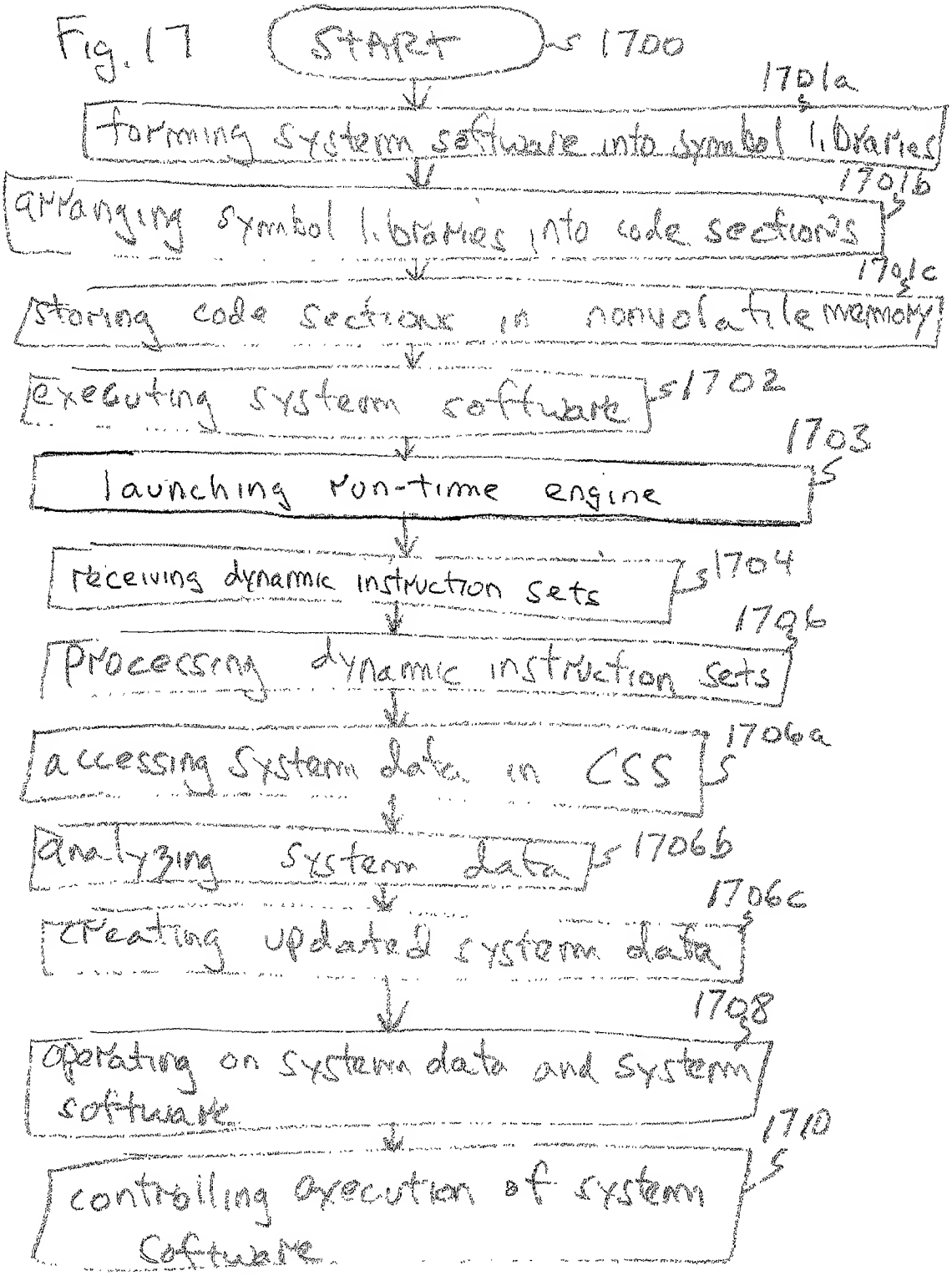

START
1700
1701a
forming system software into symbol libraries
1701b
arranging symbol libraries into code sections
1701c
storing code sections in nonvolatile memory
executing system software
1702
1703
launching run-time engine
receiving dynamic instruction sets
1704
1706
processing dynamic instruction sets
accessing system data in CSS
1706a
analyzing system data
1706b
creating updated system data
1706c
1708
operating on system data and system software
1710
controlling execution of system software

Fig. 18

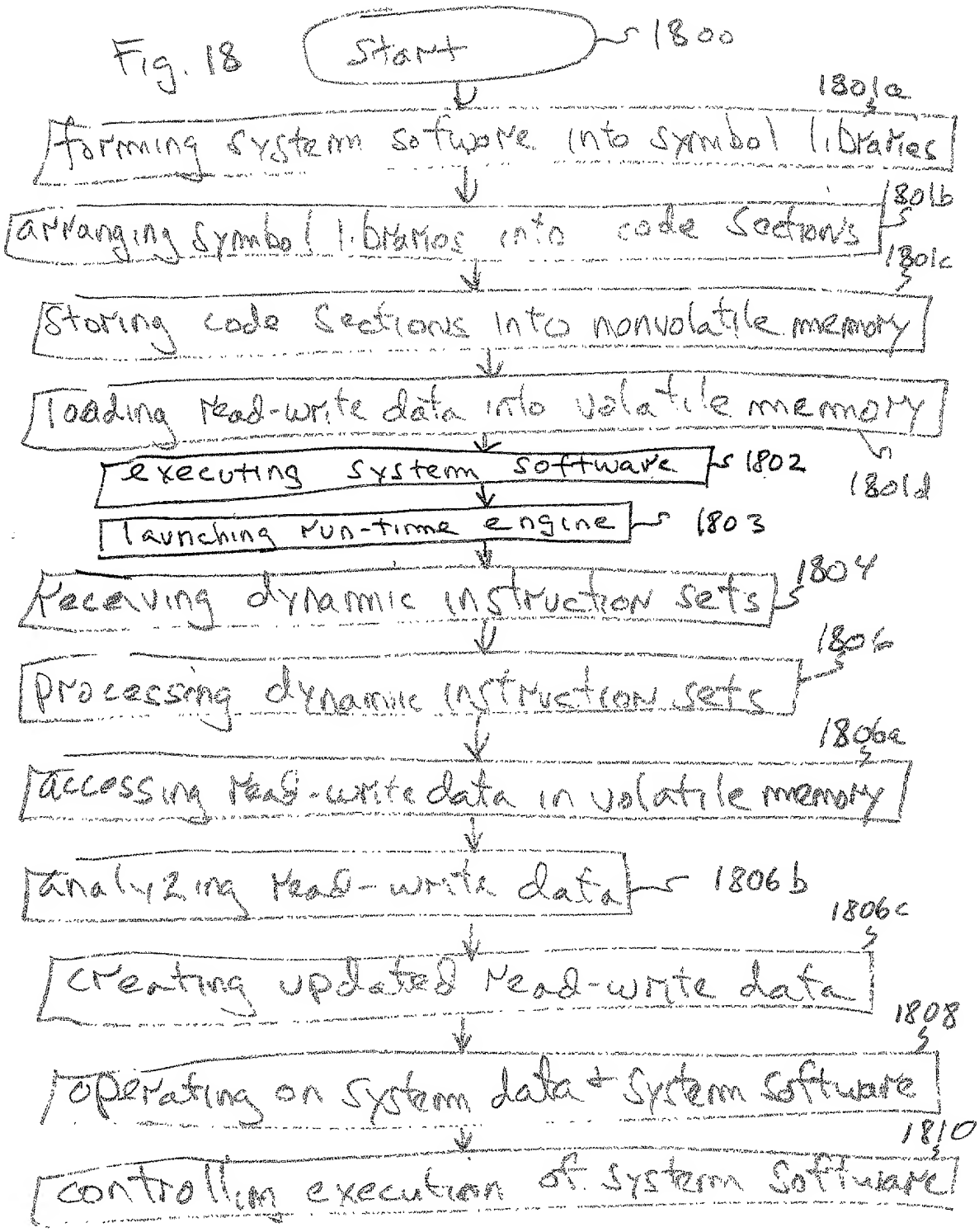

Start
1800
forming system software into symbol libraries
1801a
arranging symbol libraries into code sections
1801b
storing code sections into nonvolatile memory
1801c
loading read-write data into volatile memory
1801d
executing system software
1802
launching run-time engine
1803
receiving dynamic instruction sets
1804
processing dynamic instruction sets
1806
accessing read-write data in volatile memory
1806a
analyzing read-write data
1806b
creating updated read-write data
1806c
operating on system data + system software
1808
controlling execution of system software
1810

Fig. 19

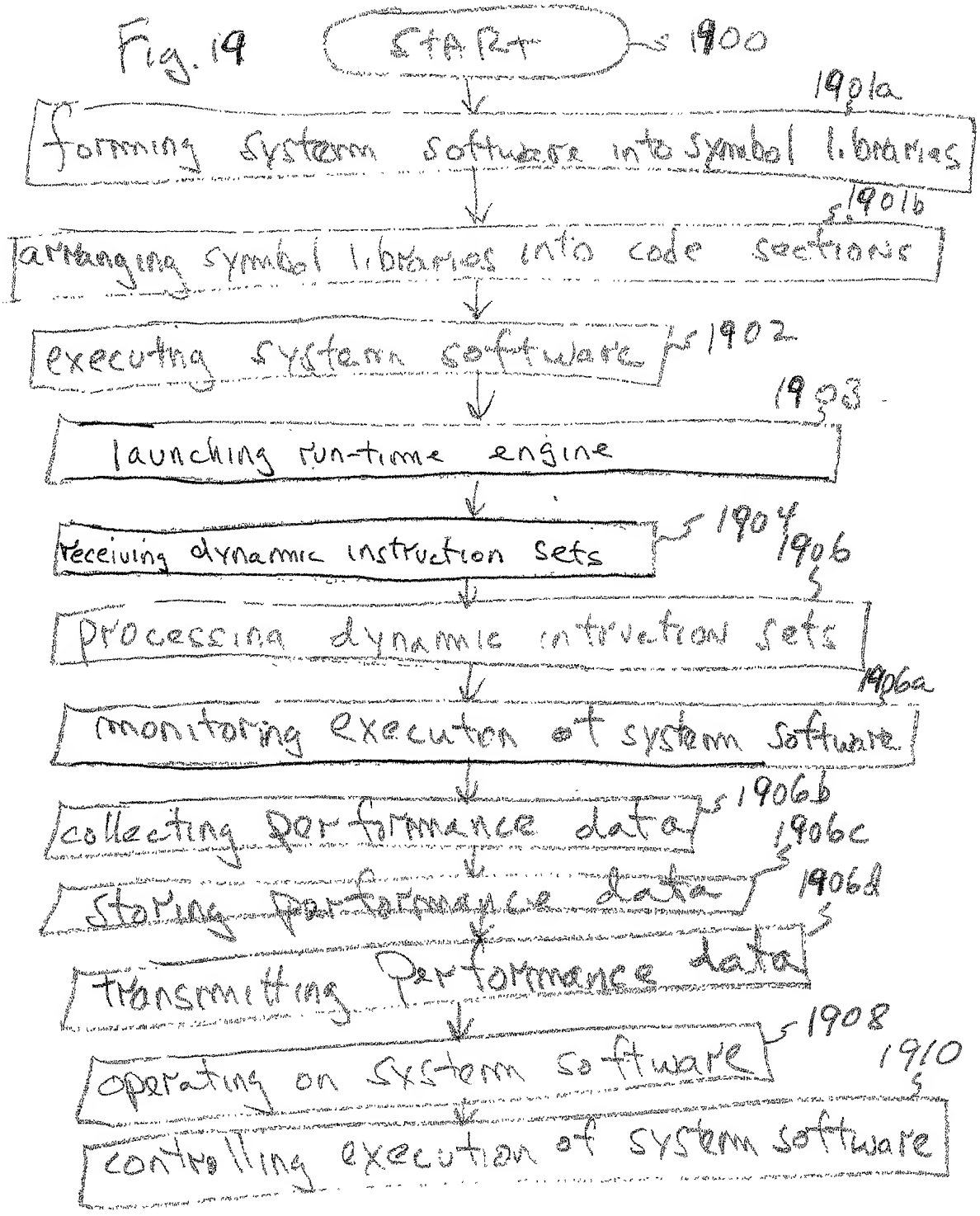
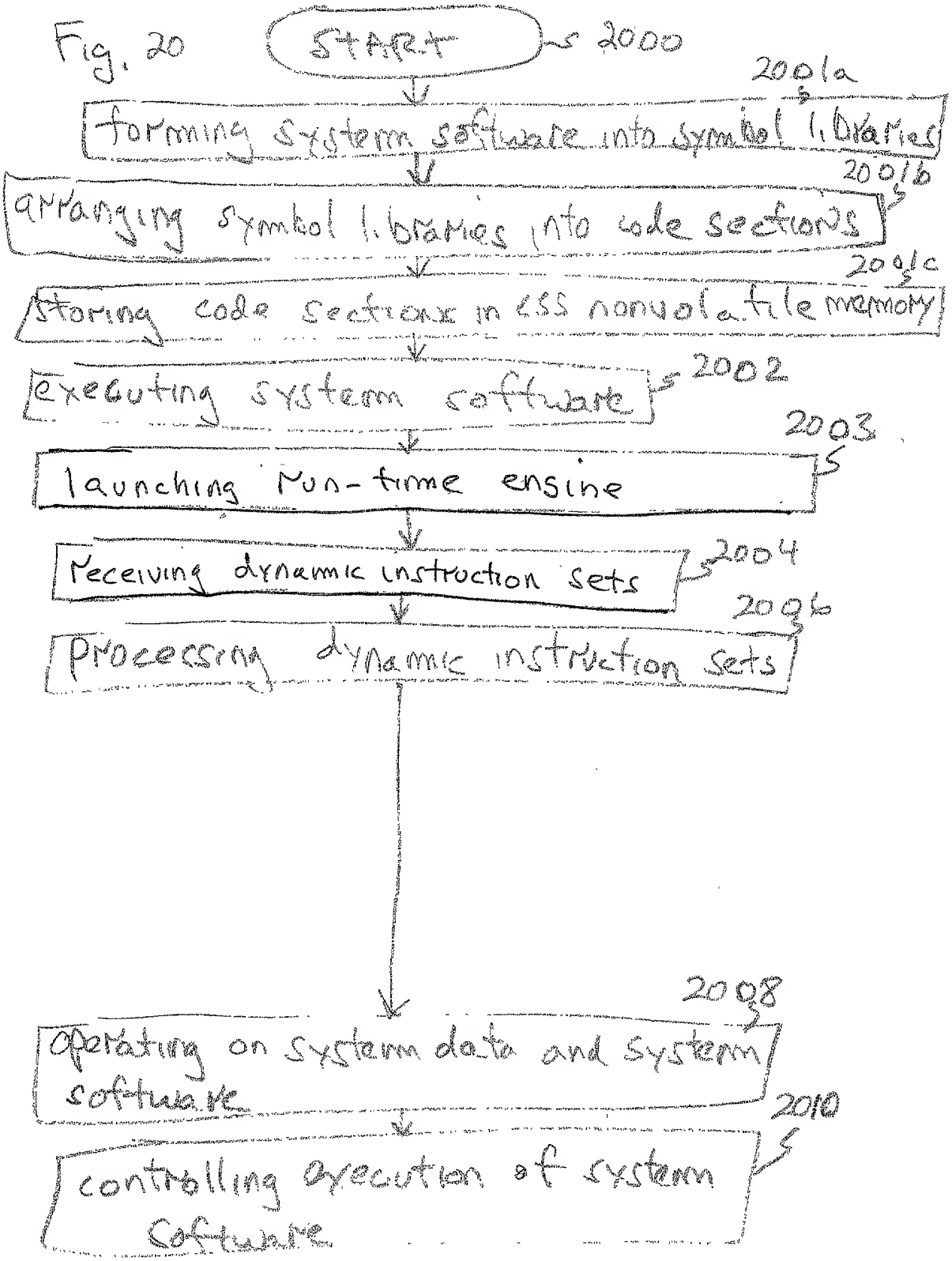

START
1900
1901a
forming system software into symbol libraries
1901b
arranging symbol libraries into code sections
1902
executing system software
1903
launching run-time engine
1904
1906
receiving dynamic instruction sets
processing dynamic instruction sets
1906a
monitoring execution of system software
1906b
collecting performance data
1906c
storing performance data
1906d
transmitting performance data
1908
operating on system software
1910
controlling execution of system software

Fig. 20


START
2000
2001a
forming system software into symbol libraries
2001b
arranging symbol libraries into code sections
2001c
storing code sections in ESS nonvolatile memory
2002
executing system software
2003
launching run-time engine
2004
receiving dynamic instruction sets
2006
processing dynamic instruction sets
2008
operating on system data and system software
2010
controlling execution of system software

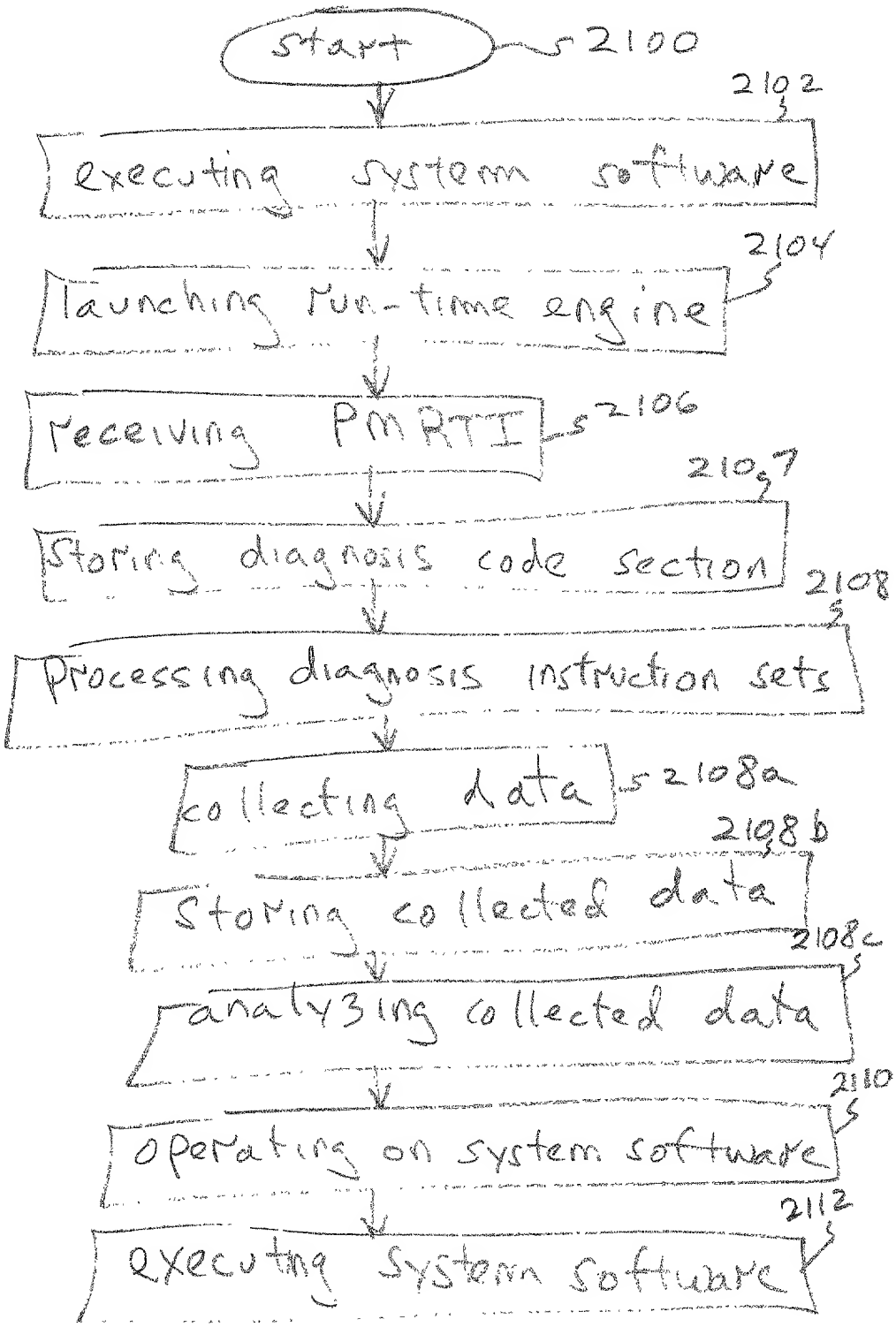
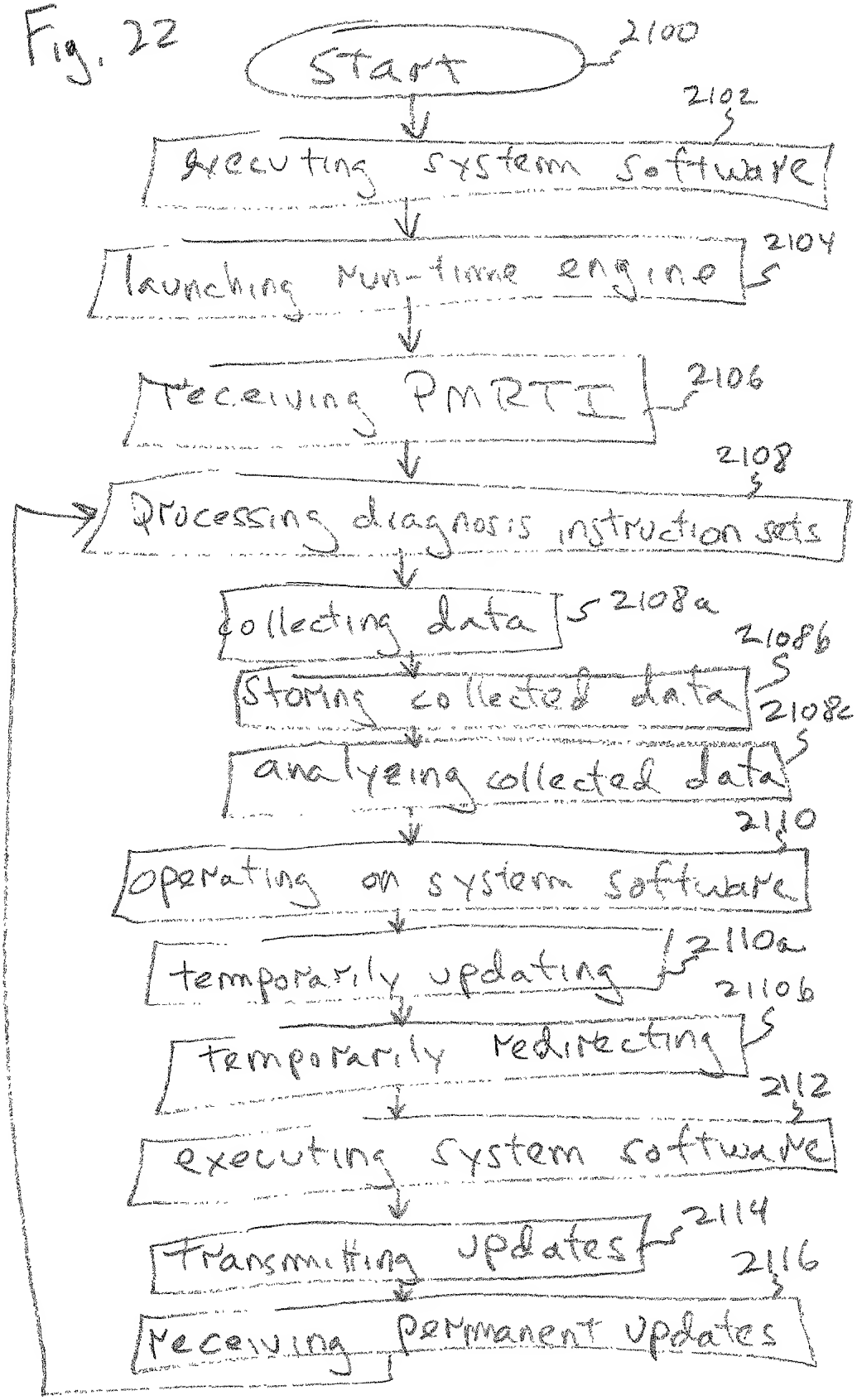

Start
2100
2102
Executing system software
2104
Launching run-time engine
Receiving PM RTI
2106
2107
Storing diagnosis code section
2108
Processing diagnosis instruction sets
collecting data
2108a
2108b
Storing collected data
2108c
analyzing collected data
2110
operating on system software
2112
Executing System Software

Fig. 2.

Fig. 22


Start
2100
executing system software
2102
launching run-time engine
2104
receiving PMRTI
2106
processing diagnosis instruction sets
2108
collecting data
2108a
storing collected data
2108b
analyzing collected data
2108c
operating on system software
2110
temporarily updating
2110a
temporarily redirecting
2110b
executing system software
2112
transmitting updates
2114
receiving permanent updates
2116

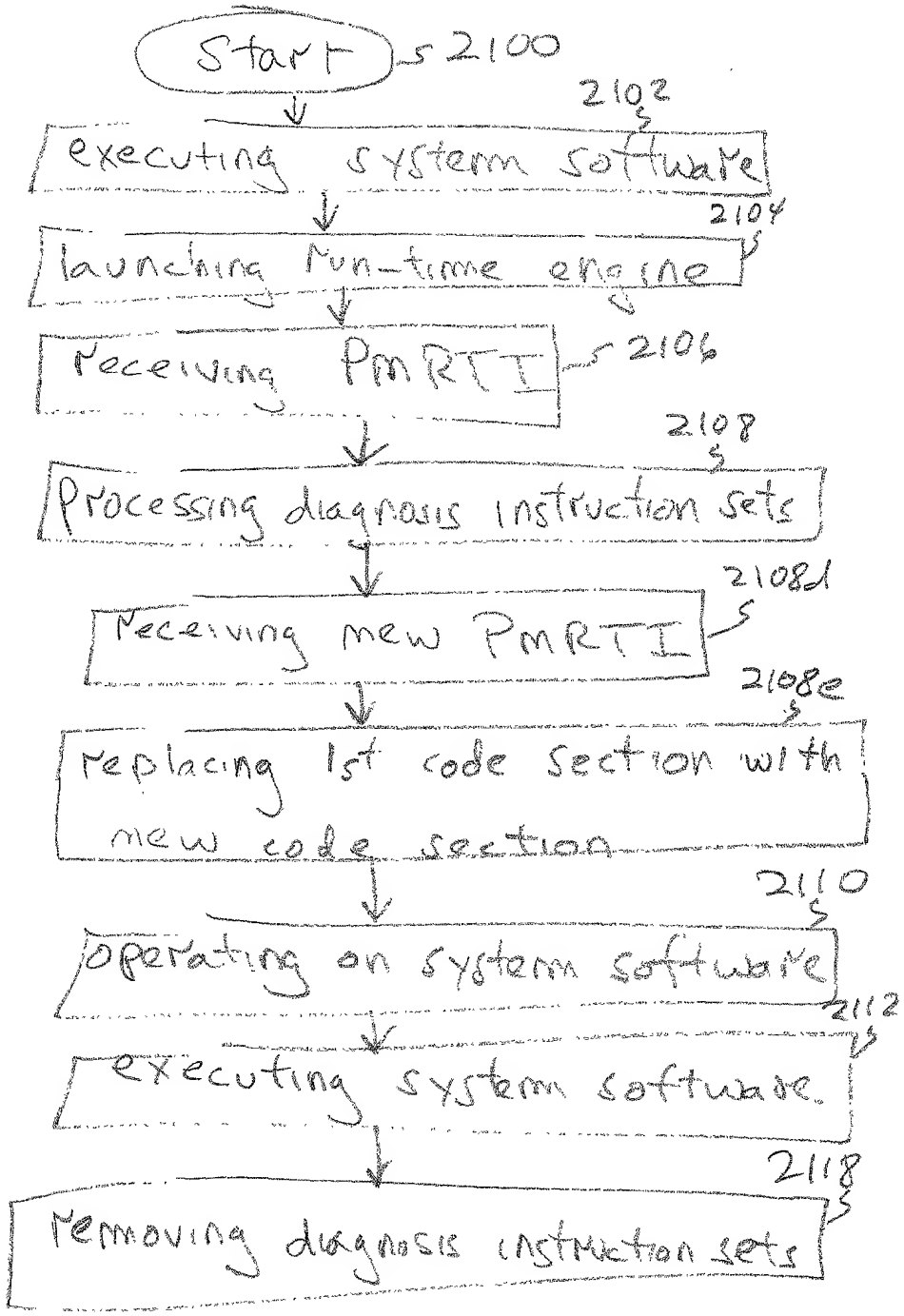

Start
2100
executing system software
2102
launching run-time engine
2104
receiving PmRTI
2106
processing diagnosis instruction sets
2108
receiving new PmRTI
21082
replacing 1st code section with new code section
2108e
operating on system software
2110
executing system software.
2112
removing diagnosis instruction sets
2118

Fig. 23